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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,535	07/19/2000	Dr. Werner Groh	032745-020	2257

21839 7590 12/05/2002

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EXAMINER

SALVATORE, LYNDIA

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 12/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,535

Applicant(s)

GROH ET AL.

Examiner

Lynda M Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-41 is/are pending in the application.
- 4a) Of the above claim(s) 19-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-18, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 + 7 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, Paper No. 11, has been entered as requested. Claims 1, 3, and 16 have been amended and claim 11 has been canceled. Claims 1-10 and 12-41 are currently pending and non-elected claims 19-39 have been withdrawn from further consideration.
2. Applicant's amendment to claims 1 and 3 is sufficient to overcome the 35 U.S.C. 112 2nd rejections as set forth in the last Office Action.
3. Applicant's amendment to claim 16 is not sufficient to overcome the 35 U.S.C. 112 2nd rejections as set forth in the last Office Action.
4. Applicant's arguments with respect to claims 1-10, 12-18, 40 and 41 have been fully considered but are moot in view of the new ground(s) of rejection

Information Disclosure Statement

5. The information disclosure statements filed on 11/20/2000 and 6/20/2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. Although, these non-translated references are listed on the international search report, there is nothing on record showing that international search reports are for a foreign application, which is a counterpart to the present application.

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6. With respect to the information disclosure statement filed on October 8th 2002, Paper No. 12, the Examiner has considered co-pending applications 09/619585, 09/619529, 09/619531, and 09/619528 as requested, however, a copy of the information disclosure statement is not being returned since it does not include a proper 1449 or equivalent according to MPEP 609(c)(2).

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Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 10 stands rejected under 35 U.S.C. 112 2nd for reasons set forth in the last Office Action.

9. Claims 10,16,40 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. It is unclear to the Examiner if the “additional” reinforcements cited in claim 16 differ from those recited in claim 1. For purposes of examination this claim will be interpreted to mean any reinforcements, which may be the same, or different from those recited in claim 1. Claims 40 and 41 are further rejected for their dependency on claim 16.

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Response to Arguments

11. With respect to the 35 U.S.C. 112 2nd of claim 10, the Applicant argues that thermal shrinking does not necessarily result in consolidation and can be accomplished without *significant* consolidation. It is unclear to the Examiner what the Applicant considers *significant* consolidation. In other words, the admission that thermal shrinking can be accomplished without *significant* consolidation leads the Examiner to believe that thermal shrinking must produce some amount of consolidation rather than none at all.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 1-10, 14-16, 18, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schops et al., US 6,235,657 in view of Campbell et al., US 5,229,184, and further in view of Heidel et al., US 5,171,629.

The patent issued to Schops et al., discloses needling together a three layer laminate comprising two synthetic spunbonded layers and at least one reinforcing layer disposed between the two synthetic layers (Abstract and figure 1). The laminate may also be further consolidated with a chemical binder (Column 5, lines 17-18). The spun-bonded webs are made of continuous filaments composed of melt-spinnable materials such as polyester (Column 2, lines 30-40). Particular preference is given to polyesters comprising at least 95 mol % of polyethylene

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terephthalate (Column 2, lines 63-65). The non-wovens of the invention are also needled and additionally consolidated with a binder (Column 5, lines 25-34). The laid reinforcing layer is preferably made of glass fiber (Column 4, lines 36-37). Schops et al., further teaches that preference is given to laminates based on glass laid structures comprising two sets of yarns oriented in the longitudinal and transverse directions. Schops et al. discloses that this arrangement is preferred in cases where high mechanical stability is desired. (Column 3, lines 38-45, figures 2 and 3, and Column 4, lines 36-37). Moreover, commercially available binding agents or hot melt adhesives may be used to fix the cross-over points (Column 4, lines 1-6). Schops et al., discloses having webs of differing basis weights may be preferred in certain specialized applications (Column 5, lines 12-16). It is also preferred in some instances to have webs of substantially the same basis weight (Column 5, lines 10-11). Schops et al., fails to disclose having thermally shrunken non-woven synthetic layer and preconsolidated glass fibers. With respect to the thermally shrunken non-woven synthetic layer Schops et al., does teach the use of melt-spinnable materials such as polyester polyethylene terephthalate, but does not teach heat shrinking the fibrous layer. The patent issued to Campbell et al., teaches a fibrous structure incorporating heat shrinkable fibers (Abstract). Campbell et al., teaches forming a shaped article from a fiber structure consisting of heat shrinkable fibers with the application heat (Column 2, lines 1-15). The fibrous structure may be a non-woven having single or multiple layers (Column 2, lines 27-35). Various synthetic fibers are suitable such as polyamide and aromatic ether ketone fibers (Column 2, lines 58-64). Campbell et al., also discloses that polyolefins, polyesters and polyamide fibers tend to shrink between 10 and 50% when subjected to heat (Column 1, lines 18-23). The fibrous structure may consist of continuous filament yarn or staple fibers

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(Column 6, lines 10-15). Campbell et al., also teaches forming groups of fibers within fibrous structure by needling or hydroentangling (Column 6, lines 44-46).

Therefore, motivated to provide a shaped article that would remain dimensionally stable over time, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the thermally shrunken synthetic fibrous structures taught by Campbell et al., for the synthetic non-woven layers in the invention of Schops et al.

With respect to pre-consolidated glass fiber limitation, the use pre-consolidation of glass fibers are well known in the art, for instance the patent issued to Heidel et al. discloses a glass fiber and synthetic fiber mat that are needled together. Heidel et al. teaches pre-consolidating the glass fiber mat with polymer binders or melamine resins (Column 2, lines 14-17).

Therefore, motivated to enhance the strength of the composite it would have been obvious to one of ordinary skill in the art at the time the invention was made to pre-consolidate the glass fibers of Schops et al., as taught by Heidel et al.

With respect to claim 8, Schops et al., teaches using two synthetic non-woven webs where one of the webs is 20% thicker than the other (Column 5, lines 13-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the thickness of each synthetic non-woven layer to enhance the reinforcement of the laminate. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 617 F. 2d 272, 205 USPQ 215 (CCPA1980).

With respect to claims 12 and 13, Heidel et al., discloses pre-consolidating the glass fiber mat with a polymer binder or the claimed melamine resin. Heidel et al., lacks an explicit teaching

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as to the amount of binder, but does state that low amounts are suitable due to the bonding strength melamine resins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of resin used to pre-consolidate the glass fiber mat. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

With respect to claims 14 and 15, the method limitations involving the needle draft are not given patentable weight at this time since they do not effectively manipulate the final product.

With respect to claim 16, Schops et al. teaches that preference is given to laminates based on glass laid structures comprising two sets of yarns oriented in the longitudinal and transverse directions. Schops et al. discloses that this arrangement is preferred in cases where high mechanical stability is desired. (Column 3, lines 38-45, figures 2 and 3, and Column 4, lines 36-37). Moreover, commercially available binding agents or hot melt adhesives may be used to fix the cross-over points (Column 4, lines 1-6).

14. Claim 17 is rejected under 35 U.S.C 103 (a) being being unpatentable over Schops et al., US 6,235,657 in view of Campbell et al., US 5,229,184, and further in view of Heidel et al., US 5,171,629, as applied to claim 1 above, and further in view of Cochran et al., US 4,892,780.

Heidel et al., and Schops et al., fail to disclose the specific types of glass fibers used in the composite, however, the patent issued to Cochran et al., discloses a fiber reinforcement composite comprising a fibrous substrate having staple fiber applied to one or both sides (Abstract). The fibrous substrate may be a knit, woven, or non-woven of high strength fibers,

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filaments, or yarns of glass, acrylics or carbon. The staple fiber add-on may be polyester, polyamide, or polyethylene. Cochran et al., teaches in example 15 a composite of E-glass fibers.

Therefore, motivated to produce a composite having strength and electrical properties it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the E-glass fibers taught by Cochran, as the glass fibers in the invention Schops et al., or Heidel et al.

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Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 703-305-4070.


The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

lsj

November 18, 2002


CHERYL A. JUSKA
PRIMARY EXAMINER